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AMENDMENTS TO THE CLAIMS:

Claims 1- 21 (Withdrawn)

Claim 22 (Currently Amended): A method of operating a first network node coupled to a second network node by a wireless link, the method comprising:

adapting one or more transmission parameters in response to variable environmental conditions;

determining an available bandwidth of the wireless link; and

determining an available payload size based on the available bandwidth; and

forming a data frame having a payload smaller than or equal to the available payload size; and

encoding a transmission data stream including the data frame using a first error correction code;

interleaving the transmission data stream;

encoding the transmission data stream using a second error correction code; and

transmitting the transmission data stream.

Claim 23 (Currently Amended): The method of claim 22, wherein adapting one or more transmission parameters in response to variable environmental conditions comprises adapting a transmission power level of one of the first network node and the second network node.

Claim 24 (Canceled):

Claim 25 (Original): The method of claim 22 wherein adapting one or more transmission parameters in response to variable environmental conditions comprises adapting a modulation level of a transmission data stream in the first network node.

Claim 26 (Original): The method of claim 25, further comprising receiving a signal quality value from a second network node.

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Claim 27 (Original): The method of claim 26, further comprising decreasing the modulation level when the signal quality value is less than a desired signal quality value

Claim 28 (Original): The method of claim 27, further comprising increasing the modulation level when the signal quality value is greater than a desired signal quality value.

Claim 29 (Original): The method of claim 22, wherein adapting one or more transmission parameters in response to variable environmental conditions comprises adapting a level of error correction in the first network node.

Claim 30 (Currently Amended): The method of claim 22, wherein the forming a data frame having a payload smaller than or equal to the available payload size comprises: receiving a plurality of ~~of~~ TDM data columns; receiving a plurality of high priority data packets; receiving a plurality of low priority data packets; and placing the TDM data columns in the payload; placing the high priority data packets in the payload; and placing a subset of low priority data packets in the payload.

Claim 31 (Currently Amended): The method of claim 30, wherein the receiving a plurality of TDM data columns further comprises receiving an incoming TDM data frame containing a first ~~second~~ subset of TDM data columns.

Claim 32 (Currently Amended): The method of claim 31, wherein the receiving a plurality of TDM data columns further comprises receiving a second ~~third~~ subset of TDM data columns from a TDM user interface.

Claim 33 (Original): The method of claim 31, further comprising separating the second subset of TDM data columns into a plurality of DROP TDM data columns and a plurality of THROUGH TDM data columns.

Claim 34 (Original): The method of claim 33, further comprising sending the DROP TDM data columns to a TDM user interface.

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Claim 35 (Currently Amended): The method of claim 33, wherein the transmission data stream ~~outgoing TDM data frame~~ contains the THROUGH ~~through~~ TDM data columns.

Claim 36 (Currently Amended): The method of claim 33, wherein the transmission data stream ~~outgoing TDM data frame~~ contains a second ~~third~~ subset of TDM data columns from a TDM user interface.

Claim 37 (Currently Amended): The method of claim 30, wherein the receiving a plurality of high priority data packets further comprises receiving an incoming TDM data frame containing a first ~~second~~ subset of high priority data packets.

Claim 38 (Currently Amended): The method of claim 37, wherein the receiving a plurality of high priority data packets further comprises receiving a second ~~third~~ subset of high priority data packets from a packet user interface.

Claim 39 (Original): The method of claim 37, further comprising separating the second subset of high priority data packets as DROP data packets and THROUGH data packets.

Claim 40 (Original): The method of claim 39, wherein the DROP data packets are sent to a packet user interface.

Claim 41 (Original): The method of claim 39, wherein the transmission data stream ~~outgoing TDM data frame~~ contains the THROUGH data packets.

Claim 42 (Canceled)

Claim 43 (Currently Amended): The method of claim 30, wherein the receiving a plurality of high priority data packets further comprises receiving an incoming TDM data frame containing a first ~~second~~ subset of low priority data packets.

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Claim 44 (Currently Amended): The method of claim 43, wherein the receiving a plurality of high priority data packets further comprises receiving a second ~~third~~ subset of low priority data packets from a packet user interface.

Claim 45 (Currently Amended): A system for operating a first network node coupled to a second network node by a wireless link, the system comprising:

means for adapting one or more transmission parameters in response to variable environmental conditions;

means for determining an available bandwidth of the wireless link; and

means for determining an available payload size based on the available bandwidth; and

means for forming a data frame having a payload smaller than or equal to the available payload size; and

means of encoding a transmission data stream including the data frame using a first error correction code;

means of interleaving the transmission data stream;

means of encoding the transmission data stream using a second error correction code; and

means of transmitting the transmission data stream.

Claim 46 (Original): The system of claim 45, wherein the means for adapting one or more transmission parameters in response to variable environmental conditions comprises means for adapting a transmission power level of one of the first network node and the second network node.

Claim 47 (Canceled)

Claim 48 (Currently Amended): The system of claim ~~46~~ 47 wherein the means for adapting one or more transmission parameters in response to variable environmental conditions comprises means for adapting a modulation level of a transmission data stream in the first network node.

Claim 49 (Original): The system of claim 48, further comprising means for receiving a signal quality value from a second network node.

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Claim 50 (Original): The system of claim 49, further comprising means for decreasing the modulation level when the signal quality value is less than a desired signal quality value.

Claim 51 (Original): The system of claim 50, further comprising means for increasing the modulation level when the signal quality value is greater than a desired signal quality value.

Claim 52 (Original): The system of claim 45, wherein the means for adapting one or more transmission parameters in response to variable environmental conditions comprises means for adapting a level of error correction in the first network node.

Claim 53 (Currently Amended): The system of claim 45, wherein the means for forming a data frame having a payload smaller than or equal to the available payload size comprises: means for receiving a plurality of TDM data columns; means for receiving a plurality of high priority data packets; means for receiving a plurality of low priority data packets; and means for placing the TDM data columns in the payload; means for placing the high priority data packets in the payload; and means for placing a subset of low priority data packets in the payload.

Claim 54 (New): The method of claim 22, wherein the first error correction code is a REED-SOLOMON error correction code.

Claim 55 (New): The method of claim 22, wherein the second error correction code is a trellis code.

Claim 56 (New): A method of operating a first network node coupled to a second network node by a wireless link, the method comprising:

- forming a data frame having a payload smaller than or equal to the available payload size;
- encoding a transmission data stream including the data frame using a first error correction code;
- interleaving the transmission data stream;
- encoding the transmission data stream using a second error correction code;
- transmitting the transmission data stream; and

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increasing the modulation level of the transmission data stream when the signal quality value is greater than a bit error rate 10^{-12} .